CLAIMS

What is claimed is:

1. A method for tracing services on an application server comprising:

identifying a group of services executed on an application server;

for each service in the group, identifying a group of entry and/or exit methods to be traced, the group of entry/exit methods representing entry and exit points to and from service, respectively;

modifying the service's bytecode based on the particular group of entry/exit methods specified;

executing the service; and

registering method invocations of the entry/exit methods.

2. The method as in claim 1 wherein the application server is a Java 2 Enterprise Edition ("J2EE") server and wherein the group of services comprise J2EE services.

3. The method as in claim 2 wherein one of the group of services comprises a hypertext transport service ("HTTP").

4. The method as in claim 3 wherein one of the groups of services comprise a servlet and/or Java Server Page ("JSP") service and wherein at least one of the entry/exit methods comprise entry/exit methods linking the servlet and/or JSP service to the HTTP service.

5. The method as in claim 1 wherein modifying the service's bytecode comprises:

inserting a start method invocation prior to each entry/exit method and inserting an end method invocation following each entry/exit method of the group of entry/exit methods.

6. The method as in claim 1 wherein registering further comprises:

collecting method-related information associated with each of the entry/exit methods responsive to the invocations.

7. The method as in claim 6 wherein the method-related information comprises a number times that each method of the set of methods is executed.

8. The method as in claim 6 wherein the method-related information comprises input and/or output parameters associated with each method of the set of methods.

9. The method as in claim 1 wherein the entry/exit methods are entry and exit points between a service and an external system.

10. The method as in claim 9 wherein the service is a Java Connector (JCo) service and the external system is an R/3 system.

11. The method as in claim 9 wherein the service is a J2EE Enterprise Java Bean ("EJB") service and the external system is a non-Web based client.

12. The method as in claim 1 wherein the entry/exit methods are entry and exit points between a service and an external database.

13. The method as in claim 11 wherein the service is a Java Database Connectivity ("JDBC") service.

14. A system for tracing program flow of services within an application server comprising:

a user-configurable plugin module to identify a group of services executed on the application server and, for each service in the group, identify a group of entry and/or exit methods to be traced, the group of entry/exit methods representing entry and exit points to and from the service, respectively;

a bytecode modification module to modify the service's bytecode based on the particular group of entry/exit methods specified; and

a dispatch unit to register method invocations associated with the entry/exit methods.

15. The system as in claim 14 wherein the application server is a Java 2 Enterprise Edition ("J2EE") server and wherein the group of services comprise J2EE services.

16. The system as in claim 15 wherein one of the group of services comprises a hypertext transport service ("HTTP").

17. The system as in claim 16 wherein one of the groups of services comprise a servlet and/or Java Server Page ("JSP") service and wherein at least

one of the entry/exit methods comprise entry/exit methods linking the servlet and/or JSP service to the HTTP service.

18. The system as in claim 14 wherein, to modify the service's bytecode, the bytecode modification module inserts a start method invocation prior to each entry/exit method and inserts an end method invocation following each entry/exit method of the group of entry/exit methods.

19. The system as in claim 14 wherein registering further comprises:

collecting method-related information associated with each of the entry/exit methods responsive to the invocations.

20. The system as in claim 19 wherein the method-related information comprises a number times that each method of the set of methods is executed.

21. The system as in claim 19 wherein the method-related information comprises input and/or output parameters associated with each method of the set of methods.

22. The system as in claim 19 wherein the entry/exit methods are entry and exit points between a service and an external system.

23. The system as in claim 22 wherein the service is a Java Connector (JCo) service and the external system is an R/3 system.

24. The system as in claim 22 wherein the service is a J2EE Enterprise Java Bean ("EJB") service and the external system is a non-Web based client.

25. The system as in claim 14 wherein the entry/exit methods are entry and exit points between a service and an external database.

26. The system as in claim 24 wherein the service is a Java Database Connectivity ("JDBC") service.

27. The system as in claim 19 further comprising:

a handler to perform one or more specified output functions on the method invocations and/or the method-related information.

28. The system as in claim 27 wherein one of the output functions comprises directing the method invocations and/or method-related information to a display.

29. An article of manufacture including program code which, when executed by a machine, causes the machine to perform the operations of:

identifying a group of services executed on an application server;

for each service in the group, identifying a group of entry and/or exit methods to be traced, the group of entry/exit methods representing entry and exit points to and from service, respectively;

modifying the service's bytecode based on the particular group of entry/exit methods specified;

executing the service; and

registering method invocations of the entry/exit methods.

30. The article of manufacture as in claim 29 wherein the application server is a Java 2 Enterprise Edition ("J2EE") server and wherein the group of services comprise J2EE services.

31. The article of manufacture as in claim 30 wherein one of the group of services comprises a hypertext transport service ("HTTP").

32. The article of manufacture as in claim 31 wherein one of the groups of services comprise a servlet and/or Java Server Page ("JSP") service and wherein at least one of the entry/exit methods comprise entry/exit methods linking the servlet and/or JSP service to the HTTP service.

33. The article of manufacture as in claim 29 wherein modifying the service's bytecode comprises:

inserting a start method invocation prior to each entry/exit method and inserting an end method invocation following each entry/exit method of the group of entry/exit methods.

34. The article of manufacture as in claim 29 wherein registering further comprises:

collecting method-related information associated with each of the entry/exit methods responsive to the invocations.

35. The article of manufacture as in claim 34 wherein the method-related information comprises a number times that each method of the set of methods is executed.

36. The article of manufacture as in claim 34 wherein the method-related information comprises input and/or output parameters associated with each method of the set of methods.

37. The article of manufacture as in claim 29 wherein the entry/exit methods are entry and exit points between a service and an external system.

38. The article of manufacture as in claim 37 wherein the service is a Java Connector (JCo) service and the external system is an R/3 system.

39. The article of manufacture as in claim 37 wherein the service is a J2EE Enterprise Java Bean ("EJB") service and the external system is a non-Web based client.

40. The article of manufacture as in claim 29 wherein the entry/exit methods are entry and exit points between a service and an external database.

41. The article of manufacture as in claim 40 wherein the service is a Java Database Connectivity ("JDBC") service.